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AMERICAN SCHOOL HEALTH ASSOCIATION

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Devoted to the interests and advancement of those engaged in school health activities and the service rendered by them

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The rooster's legs are straight.

The boy's are not.

The rooster got plenty of vitamin D.

Fortunately, extreme cases of rickets such as the one above illustrated are comparatively rare nowadays, due to the widespread prophylactic use of vitamin D recommended by the medical profession

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THE JOURNAL OF SCHOOL HEALTH

Devoted to the interests and advancement of school health service and instruction. Your participation by membership is solicited.

Vol. XVII DECEMBER, 1947 No. 10

WHAT IS NEWS*

E. R. VAN KLEECK, Ph.D.
Assistant Commissioner of Education
New York State

There is huge interest in your field of school health because, first, you deal with children and their education, and, secondly, you deal with the health of boys and girls. Some twenty years ago Belmont Farley made a detailed study of what people wanted to know about their schools. He found that high among their interests was the subject of school health—the health and safety of pupils. I think that interest in health generally and in the health of children especially has, if anything, even increased in the intervening time. Since then, there has been a second World War with the publicity concerning draft rejections, and since then the popularization of health in books, magazine articles, newspaper columns and the like has grown substantially.

More is being done to inform the public about the school health program than was done twenty years ago but there is still insufficient attention given.

About 1932 I analyzed—a frightful task—the school news in forty-three New York State village weekly newspapers, for twenty-two consecutive weeks each. I did it as part of a Master's thesis. I discovered that the topic of pupil health and safety received less than two per cent of the portion of the space in the newspaper devoted to local school news of all types. Since local school news of all types in turn got only 2.28% of all of the white space in these papers and less than 5% of all of the news space in the papers, it is obvious that pupil health and safety received les than 1/10th of 1% of the news space in the paper and less than 1/20th of 1% of all the white space in the newspapers. There has been some improvement since then but not nearly enough.

I raise, therefore, this question: What big business enterprise would prosper if it so neglected its relations with its customers?

So I say to you that there is a tremendous opportunity here for you who are interested in school health. Now why should you

*Presented before the American School Health Association, Atlantic City, October 5, 1947.

paper, however large the city, will print. Look: "Dr. Jones says that there are only half as many measles cases in our schools this February as last". Then you add a couple of paragraphs about what parents and teachers should watch out for, always of course with an allusion to the importance of consulting the family physician! Or, "Dr. Smith says that head-lice—not pediculous capitis, for heaven's sakes!—have been reduced three-fourths since 1937. Then you add some general ideas on sanitation.

Always be sure to avoid medical language. I recall the newspaper editor who years ago when I was a college student and working on newspapers advised me in no uncertain terms to omit such phrases as "vitiated atmosphere".

"Anybody who has three cents can buy our paper", he said, "but anyone with three cents doesn't know what 'vitiated atmosphere' means. If you mean bad air, say 'bad air' ".

Or, Dr. Brown announces the schedule for medical examinations in the various buildings as follows." Later, "Dr. Brown will be at School 10 Monday", "Dr. Brown will start on the Washington Junior High School medical examinations Thursday", etc., etc. "Dr. Brown says that the schools just examine; the family doctor treats."

Again: "Dr. Brown says the examination is of no use unless the parents try to get corrections made", or, "Dr. Brown finds that children are better nourished (or more poorly nourished) this year than last year". It's news either way.

"Dr. Brown advises eating more leafy green vegetables, and drinking tomato juice, and milk, not coffee or chocolate-flavored drinks." "Dr. Brown thinks the girls who have had home economics courses choose their diets more wisely." "He visits the school cafeteria and he finds that more children, but not enough, are eating the right things."

But you need not depend just on statistics:

"Dr. Black meets with the physical education teachers, the school nurses, the elementary teachers, the high school science teachers, the home economics teachers, so that they can plan a unified attack on health problems".

You medicos don't hold the union card which we school administrators possess, nor do we hold your union card, so you can engage in this type of activity more freely than perhaps might otherwise be the case.

"Dr. Black takes the school board to visit a sight-saving class in a nearby city". (Dr. Maxwell did just that and got himself such a class).

"Dr. Black takes the board to visit a lip-reading class". "Dr. Black brings a group audiometer to the school board meeting and tests the members". (Or, he does the same with the teachers). Dr. Maxwell did that, too.

"Dr. Black (for the teachers, not the newspapers) "tabulates the average classroom temperature and finds it is nine degrees too high".

Those things, and scores of others are *all* news. So are these:

You have a new dental layout in School 12; the hygienist's schedule is such and such (supervised by so and so, D.D.S. of course!); you are going to attend the American School Health Association Convention, where so and so will speak on such and such. *Never* mention a speech on public relations as the value of publicity is in inverse ratio to the public realization that publicity is being consciously fostered.

You have come home from Atlantic City and you found there that there is national interest in tuberculin testing (which we folks here in East Overshoe began fifteen years ago), or you found that the average per pupil expenditure in the United States on school health is half again as large as yours, or you report that Dr. Pratt says there should be such and such equipment and personnel for hearing conservation work, or that the distinguished authority, Dr. Myers, says such and such about tuberculosis control.

I have a group of 180 district superintendents of schools, state employees, who are under my supervision. Our State Department of Education runs regional conferences for them annually. We find that if we send out a story from Albany covering the speeches, it gets some play in the newspapers. If, however, we mimeograph the story, leaving in the opening paragraph places for the insertion by the superintendent of his name and address and the name of the particular regional conference which he attended, and if we send this material to the superintendents and they distribute it to the newspaper editors, 90 per cent or more of the papers will print it.

Remember again: Don't put all your eggs in one basket. One or two points are usually enough in a news story. String out the releases.

Short bulletins or circular letters to teachers and to parents are excellent. I know I read every word that my son's school sends home, and I imagine most parents do. Each of those bulletins to parents and some of those bulletins to teachers will in turn be the basis for a news story also. Our Bureau of Health Services in the

New York State Department of Education is trying to use more extensively the same idea in letters, in their case not to parents or teachers but to school administrators throughout the state.

You can get lots of ideas from Hygeia, from the American Medical Association publicity people, from the School Public Relations Association and from releases like those put our every few days by the New York State Department of Health. The Public Information Service of the American Red Cross puts out a sheet called FYI ("For Your Information"); it's full of bright ideas.

Here are some more suggestions:

Such and such a percentage of children has been immunized from smallpox; "it can't happen here in our town". Or, diphtheria prevention has slipped in our town; it *can* happen here.

The Board of Education has hired a nurse, put in fluorescent lighting, developed and equipped a health center. The superintendent will emphasize health education and health service in his talk to teachers at the opening of the schools this year. Employees are getting chest X-rays. All new teachers, and so on will be required to get chest X-rays. All of those ideas are from a recent news clipping from Oneonta, New York. The P.T.A. has offered to help finance school lunches. A reporter spent the day with the school nurse (That was done at Bronxville, New York and the result was a most interesting story). The school nurse's procedure on re-admission of pupils after absence for illness is explained. The school physician reports his activities to the superintendent and Board of Education (Dr. Ayling of Syracuse always does that). Such and such a number of remediable physical defects have been found. Later such and such a percentage have been corrected or put under treatment. Monthly sanitary inspections of schools are being made. First aid cases are more numerous (or less numerous) than a year ago. Such and such provision is being made for the care of handicapped children. Parents are being invited to be present at the school medical examinations of their children. Physical examinations for employment certificates (working papers) show such and such a situation. A school physician will attend each football game. A special, extra-thorough physical examination is being given each athlete. The doctors are giving health talks to pupils. Dr. So and So or Supt. So and So from a nearby city is visiting our school health organization (This always implies a compliment). The State Education Department says such and such is good in our setup and such and such is bad. A cardiologist is at work and finds such and such. Full or part-time or consultant services of a psychologist or

a psychiatrist have been engaged, or asked for, or are hoped for.

The Rotary Club heard a talk by an ophthalmologist and voted funds for eye glasses. The school nurses held so many thousand conferences with parents, pupils, teachers, etc., gave so many emergency treatments, gave screening tests for visual acuity, helped the physician with this and that. (A great many of that group of ideas are borrowed from Dr. Ayling, without his knowledge or permission!)

Of course, as I have already hinted, the superintendent of schools should approve much of this and the superintendent and Board of Education should have these releases before newspapers do. They'll read them then! Even if they don't read them in the form of a report, they'll read them when they appear in the papers.

One of the best books on school public relations is Benjamin Fine's "Educational Publicity". That book will tell you about techniques of news-writing, relations with the press, how to recognize news, how to cover meetings, values of pictures, use of radio, etc. I cannot take time for that now. Our Bureau of Business Education in the State Education Department in New York puts up a loan packet "Publicity for the Business Department", which it sends to the commercial teachers. This Association here might find it worth while to prepare some such packet.

Then look up the books by Routzahn and Routzahn. Mrs. Routzahn directed the Department of Social Work Interpretation for the Russell Sage Foundation and she helped found the National Publicity Council for Health and Welfare Services.

As Basil O'Connor told the American Red Cross recently, "First, have a cause. Identify it, dramatize it, demonstrate it, and capitalize on it." You people in school health have a cause. It is readily identifiable. It can easily be dramatized. It is up to you to capitalize on it.

I think that, as a profession, only the medicos have in general been less effective than we school teachers in public relations. (I am of course touching tonight on only one phase of public relations, namely newspaper publicity.) But you M.D.'s are improving. The medical profession has had to improve; it may still be too little and too late.

The smart physician doesn't fear the public health program or the school health phase of it. He welcomes it, for he knows that it means more, not less, attention by parents to their children's health. But few private practitioners have any idea what school health programs really amount to. We find that even public health

people are amazed when they get the facts about the school health work. From some of the discussion here tonight I gather that that situation is not peculiar to New York State! So, as you educate the general public and the Boards of Education, and teachers and administrators, you are also educating the medical and the public health professions. Dr. Bortz in his president's address to the American Medical Association here in Atlantic City in June emphasized the importance of educating the public concerning health. He said that the American Medical Association gets over half a million letters a year on health problems from the general public. Think of it! More than half a million letters a year!

You people in school health are not getting your share of the school funds. In New York State, for example, I find that some schools that are spending thousands of dollars on physical education and athletics, for example, are perhaps spending hundreds of dollars or even less on such a matter as dental hygiene.

You school physicians get some criticism that you don't deserve, and, what is more important, you fail to get a great deal of credit which you do deserve. I care nothing personally whether you get credit so far as you yourselves are concerned, but, since nothing succeeds like success, therefore if your work is appreciated, you will get more funds and can do more for boys and girls.

Of course if you do one-half of the things I have suggested so far, you will be called a publicity hound. A few other school executives may be jealous of you and some of the other public health people may be jealous. Especially medicos in private practice may be jealous. You can lessen this criticism somewhat by playing down your own name and playing up the names of others with whom you work. This, in one way, is bad as publicity is most effective when it is built around a name, an individual, a personality. That kind of publicity tends to snowball. For example, it is not the Ford Motor Company, but Henry the First and Henry the Second; it is not the United States Public Health Service but Dr. Parran; it is not the United States of Soviet Russia but Uncle Joe.

But even though you do play up the names of other people, you must be prepared to pay the price of being labeled a publicity hound, often by other M.D.s who in some cases lack the wit or the energy to do something constructive themselves and then to publicize it. But that isn't too big a price to pay if you can double or treble the tiny percentage which school health gets in the average school budget, if you can do more tuberculosis case-finding, if you can get the teeth of more kids cleaned, if you can pay the physician

to spend fifteen minutes per child on a medical examination instead of the forty-five to sixty seconds that I have actually observed in some schools.

Even a religion needs development, propagandizing, promotion; even it needs a promoter. You people in school health need some St. Pauls.

Look what promotion can do! Take the matter of safety. You have heard from Dr. Maxwell earlier this evening how fatal accidents to children are down nearly 50% in the ten years from 1935 to 1945. Information and dissemination of information had a big share in that. How can anyone of you worry about standing on his dignity, keeping out of the newspapers, etc., if he thinks of the thousands of children who didn't get scalded to death, or maimed for life by automobiles, or drowned.

Publicizing the facts *will* improve the public's attitude toward school health. That in turn *will* inevitably increase the financial help given the school health program and thereby will result in bringing large benefits to the boys and girls whom we all serve.

* * * * *

Chamber of Commerce and Education,—Action for public school education improvement continues to be a major concern of the National Chamber. This interest is based not only on the American ideal of equal educational opportunities for all, but also on hard-headed business judgment. For studies have conclusively demonstrated that where educational levels are high, business levels are correspondingly high.

Indeed, so broad in scope has been the research conducted by the national committee to prove this conclusion, that indices range from quality of markets, retail sales, mental deficiencies and military rejections—to expenditures per pupil, teacher salaries and state allocations.

To stimulate local action, the national committee has issued a number of reports—filmed and in print—which point up the problems, suggest action, and emphasize the practical need for such action.

A pamphlet and a slide film, both entitled "Education—an Investment in People" illustrate the results of the numerous surveys made these last two years.

"Responsibility—the 4th 'R' in Education" is the title of another recent committee publication. This report stresses the need for strengthening state departments of education, and places the responsibility for such action squarely on the individual citizen and businessmen.

RESPONSE TO PRESENTATION OF THE WILLIAM A. HOWE AWARD*

HELEN AHRENS CARY, M.D.
Portland, Oregon

Dr. Outland, Mr. President, Honored Guests, and Members:

Giving and receiving of the William A. Howe Award brings into our midst the spirit of the founder of this organization. It would seem fitting to give at this 20th birthday a brief picture of the association.

In 1927 at a meeting of the A.P.H.A., Dr. Howe, a man of great vision, who had long been engaged in school health service in the state of New York, called together a group of physicians also interested in the health of the school child. These pioneers decided to organize for the purpose of promoting better service through exchange of ideas and experiences, and to study mutual problems.

Membership was limited to medical doctors and the organization was called American School Physicians Association. It very soon began to draw into its ranks outstanding physicians from all parts of the country.

During the first year of its experience a mimeograph bulletin containing articles, abstracts and notes was published. The following year it took new form and was printed as the School Physicians Bulletin.

Interest in the organization increased and many other health workers applied for membership. It was not long before it was recognized that the activities were too circumscribed and so in 1934 a new Constitution and By-Laws were drawn up and accepted. This change in eligibility opened membership to all allied health workers who had sufficient training in the basic sciences. A wider eligibility has increased the effectiveness of the organization and made it one embracing all phases of the health of the school child, thus broadening the horizon and intensifying a rounded coordinated service.

In 1936 Dr. Howe sought release as editor of the journal and the present editor was appointed to fill the position. The name was changed to Journal of School Health. This magazine is the only one dealing exclusively with all phases of school health problems, and its wide distribution fills a great need for the dissemination of authentic health information for all worker in the field.

Throughout the years committees carry on the work of the organization. Reports are presented at the annual meetings and

*Presented at the Annual Meeting of the American School Health Association, Atlantic City, October 8, 1947.

results printed in the Journal of School Health so that the membership may be apprised of the findings.

This organization has grown in strength—purpose—and service from a small beginning to a membership of 1730. A healthy growth in its twenty years. Members and fellows are from every state in the union and in addition there are within the association three strong state chapters. The association through its sincerity of purpose, effectiveness of its program and the work of its members has won for itself a place among the outstanding health organizations of America.

It would be impossible to accept this William A. Howe Award without paying tribute to the loyalty of my splendid staff of Public Health Nurses, the Health Officers under whom I have served, the Council of the County Medical Society, always ready to discuss problems and programs, the interest of the School Superintendent, the help of the Director of Health Education, and last but not least a sympathetic and understanding husband.

Sharing this recognition with them, I humbly accept this William A. Howe Award with deepest appreciation and shall cherish it as one of my dearest possessions. I thank you from the bottom of my heart. HELEN A. CARY, M.D.

HELEN A. CARY, M.D.

The William A. Howe Award is conferred annually on workers in the field of school health who have rendered distinguished and outstanding service.

It would be difficult if we searched the 48 states to find a more worthy or more appropriate member of our profession on which to confer this honor than on Dr. Helen A. Cary. Dr. Cary was Director of School Hygiene, Portland Public and Parochial Schools, from 1924 to 1946. In this capacity she was noted for her splendid leadership, for her organizing ability and for the high standards of child health which she fostered so effectively not only in her own community of Portland, but in ever-widening circles throughout the United States.

Dr. Cary's ability as a health educator was well recognized by the educators of her native state and city. In this field she rendered outstanding service in the preparation of health units for instruction in health education, collaborating also in writing a Health Handbook for Teachers.

Dr. Cary's community health interests were broad and extended beneficially into the total public health and social welfare structure of her city. She gave generously of her time and knowledge and warm human interest to the majority of those local organizations established to promote better health and social conditions for children. She was Board Member of the Oregon Tuberculosis Association, the Y.W.C.A., the Oregon Council of Social Agencies; Committee Member of Oregon State Infantile Paralysis Foundation, State School Lunch Committee, Red Cross First Aid, and State White House Committee in Child Welfare, to name but a few.

Dr. Cary is highly thought of by the medical profession and has held positions of honor and responsibility as Councilor at Large of the Oregon State Medical Society. She was National Secretary of the American Medical Women's Association and has held the offices of treasurer, vice-president and president in Alpha Epsilon Iota, National Women's Medical Fraternity.

One of the greatest achievements, however, for which we honor Dr. Cary is for her many years of devoted and selfless service on behalf of the school child which she has manifested by her enthusiastic and steadfast loyalty as a working member of the American School Health Association from 1929 down to the present.

Dr. Cary helped to lay the solid ground work of this organization. Through the years she was chairman of many committees: The Oregon State Membership Committee, Oregon State Tuberculosis Control Committee, Committee on Revision of School Health policies, and the Program Committee, to name only a few of the more important and laborious of her committee assignments.

As a member of the Governing Council of the American School Health Association, Dr. Cary's wise counsel and practical vision have been like a guiding star to the Association on many an occasion. In recognition of these qualities Dr. Cary was elected vice-president of the American School Health Association in 1938, president-elect in 1944, and president in 1946. Unfortunately ill health, the result of Dr. Cary's years of unselfish and sacrificial service, prevented her from assuming office.

Dr. Cary's most important contribution to child health, however, has been herself, her warm friendly, sincere personality, her ability to work with people to follow through regardless to the goal—the advancement of child health.

C. MORLEY SELLERY, M.D.

MANAGEMENT OF THE SPASTIC CHILD*

ALBERT D. KAISER, M.D.
Rochester, New York

The first description of infantile spastic paralysis was given by Dr. John William Little of England. Little was a neurologist and a pediatrician and one of the founders of orthopedics. He was a sufferer of various maladies and during his convelascence from an acute febrile disorder was left with a condition called infantile atrophic paralysis which affected most of the anterior muscles of his left leg leaving them permanently palsied. Much has been written to accurately describe this condition in recent years but no satisfactory solution for the correction of this defect has been reported.

Eitology

Cerebral palsy is caused by damage to certain portions of the brain that govern muscular control. This may come about from various causes. There may have been a hemorrhage in the brain due to injury before, during or immediately after birth; the affliction may be due to a congenital malformation of the brain; it may have been caused by encephalitis or other disease, or injury to the brain any time during life.

Types of Cerebral Palsy

There are several different kinds of muscular involvements all of which come under the heading of cerebral palsy. The three most commonly referred to are (1) spasticity, in which the muscles are contracted and tense—a condition which gave rise to the popular term "spastic" applied to the entire group; (2) athetosis, a condition characterized by constant involuntary motion; and (3) ataxia, discoverable chiefly by the individual's lack of balance and coordination. Athetosis and spasticity are by far the most numerous forms of cerebral palsy. Spastics alone constitute a little less than half of the total.

Pathology

The nature of interference in function depends upon the part of the brain damaged. Injury to the cortex, or outer layer of the brain, usually results in spasticity; injury to the base of the brain may result in either spasticity or athetosis. In its exact sense the term palsy means anything interfering with proper control of muscles. Thus, cerebral palsy arises in the brain, while infantile paralysis is actually a palsy which arises in the spinal cord. In cere-

*Presented before the New York State School Physicians Association, at Saratoga Springs, July 28, 1947.

bral palsy muscular stimulation and tension are usually increased rather than decreased; thus it is different in its effect from infantile paralysis which tends to result in muscular weakness and flaccidity.

Symptoms

The symptoms vary in early infancy, later infancy and childhood. Realizing the fact that the infant is, from a neurologic standpoint, very incomplete at birth, one must recognize that a good deal of damage, some of which may be permanent, can exist without modifying behavior in early infancy. It is entirely possible to have cortical damage which does not produce recognizable symptoms until the period of infancy is almost over. It is equally possible to have aberrations of activity due to lesions of the basal ganglia which are completely unnoticed until inadequate development of motor control becomes obvious when walking and other advanced activities are attempted. In hopelessly damaged children there are all sorts of variations in symptoms. In some the motor signs are striking; in others the most obvious disorder is frank idiocy. Usually the situation during the first year, does not warrant a final decision on the extent of the damage.

During the second year and increasingly thereafter, it is easier to make adequate appraisals and consequently a more accurate diagnosis. As the child begins to reach the stage of talking and walking various new patterns of behavior come under review and there is less and less difficulty in getting agreement between various observers as to the degree of handicap. At this stage it is usually possible to attempt a classification.

Classification of Deformities

In a general way, the distribution of the handicap can be defined. There may be a paralysis of one limb termed "monoplegia" or the paralysis may involve half of the person termed "hemiplegia." The majority of the patients have diffuse lesions. In the vast majority of cases all four limbs are somewhat affected, with the worst of the disability in one place or another. Once a conclusion has been reached about the distribution of the disability the character of the disability is marked by limpness or flaccidity. In a fair number of children this is the outstanding feature. Almost invariably diffuse lesions add spasticity to the picture.

By a careful examination of the child in action, it is relatively easy to make a working diagnosis. The "spastic" child is stiff, tends to hold its limbs in rigid positions with contractures which are most marked in the adductors of the thighs and in the posterior

muscles of the calf. The arms, if involved, tend to show flexion at the elbows and wrists. All activity is hampered by the tendency of the limbs to spring back into a stereotyped pattern, when motion is attempted. The typical example is the "scissors gait" in which the legs snap across each other as walking motions are initiated. The children with rigidity, dystonia, athetosis and the like have few or no contractures, but any attempt to move effectively is blocked by chaotic lack of control of involuntary movements. In relatively pure cases the child may be able to move any one limb fairly well but has almost insuperable difficulty in performing any action which requires team play between trunk and limbs. The same type of confusion involves the muscles of the head and neck.

Obviously, where the lesion is sufficiently diffuse we get various combinations of weakness, stiffness and confusion of control. No matter what the pattern, it is essential to determine whether any fibrous contractures are preventing the child from getting the benefit of activity.

Appraisal of Sensory Responses

After an appraisal of the motor machine, one comes to grips with the question of sensory factors. With the widespread cerebral changes which are responsible for cerebral palsy it is to be expected that a few patients are frankly blind or deaf. A few more have defects such as hemianopsia, others have difficulty in recognizing form, and so on.

Following a reasonably dependable appraisal of the physical factors, it is absolutely necessary to find some satisfactory method of arriving at conclusions about the intellectual status of the child. In infancy, aside from apparent idiocy, judgment is difficult and the familiar "guarded prognosis" can be reputably and vigorously maintained. As childhood advances the determination of mental status becomes more and more important. None of the ordinary "norms" of the psychometrist are of any great value since many of these children have highly important motor or sensory difficulty.

Expert skill is required in assessing the intelligence, emotional stability, degree and nature of involvement, and, once these things are established, in recommending and carrying out an effective plan of treatment and education. One is easily deceived as to both the child's intelligence and treatability by the wild grimaces, difficulty in talking and gesturing.

It is these difficulties in accurate diagnosis and appraisal of the child's intelligence that have pushed the cerebral palsied child into the farthest and darkest corner of our national conscience.

Incidence

Now that a new and timely interest has been taken in the children with cerebral palsy, it is natural that inquiries should be made as to the true size of the problem. The number of children diagnosed as cerebral palsy in the United States is not known. It was estimated in 1940 that there were about 30,000 children under 21 years of age with this disability. States with fairly complete registers show cerebral palsy as a major cause of disability among children numerically only a little behind infantile paralysis. For various reasons children with cerebral palsy are frequently kept out of the public crippled children records. Since more community interest has been shown in this problem previously unreported children have come to the attention of public agencies.

Based upon a number of intensive surveys, it has been calculated that there is an annual increment of seven cerebral palsied children per 100,000 of general population and that this holds true for both city and rural areas. Of these seven, one dies before reaching the age of six thus leaving six of every age group. In this way we can assume that there is a constant case load of 96 cerebral palsied children under the age of 16 for every 100,000 population. It has been pointed out by J. Thomas McIntire[1] that 75 per cent of the cerebral palsy cases have an intelligence quotient ranging from 70 all the way up to very bright. This means that three quarters of them can be classified as teachable. On the basis of a constant case load of 96 of all types per 100,000 of population, this means that 71 can be benefited by treatment, training and education.

Because many cerebral palsied children experience great difficulty in expressing themselves, there has been in the past a tendency to under rate their intelligence. Nearly all of the children are retarded, because of their handicaps, but this in itself is no indication of potential mental capacity. The retardation is commonly mistaken for low intelligence; and this is one factor which has made for long-term indifference to this neglected group. Studies made by McIntire, formerly psychologist for the New Jersey Crippled Children's Commission, distributed cerebral palsied children in several intelligence categories; superior, 5 per cent; high average, 10 per cent; average, 30 per cent; low average, 11 per cent; dull normal, 13 per cent; borderline, 5 per cent; feebleminded, 26 per cent.

It must be remembered that practically all cerebral palsied children have been handicapped since birth; they have not had a

1. McIntire, J. Thomas—"*Cerebral Palsy Treatment Experiment.*" The Crip-Child, Dec. 1922. 20:94-96, 111.

chance to form primary action patterns before acquiring their disability. Frequently they have complicating handicaps involving speech, sight or hearing. All these factors indicate the need of great skill in evaluating the child's potential intelligence.

The most tragic of the neglected cases are not the cerebral palsied feeble-minded but rather the children of normal or superior intelligence whose disability has cut them off from normal opportunities.

Need For Treatment

Recognizing the seriousness of the lesion producing cerebral palsy and that actual damage to nerve tissue cannot be repaired, the question naturally arises; Can children suffering from cerebral palsy improve sufficiently to warrant any program of therapy. Ample experience is available to show that with proper treatment and training most children cdippled by this disease can and do improve physically. Several demonstration projects have shown suprising capacity for improvement on the part of mentally normal cerebral palsied children. Courses of treatment directed at systematic relaxation and specific muscle re-education has made it possible for children to progress.

To rescue a child from his social isolation is a complex undertaking requiring highly specialized skills, not only in evaluating his physical and mental potentialities but in developing these potentialities. The variation in the degrees and complexities of involvement make it difficult if not entirely impossible to put them in categories. Speech involvements, emotional upsets, hearing and sight difficulties, variants in degrees and kinds of motor involvements, all these require the constant team work of the specializing physician, psychologist, occupational and physical therapy technicians, the public health nurse, the speech and sight specialists, the specializing teacher and the social worker. To make this team effective the parent must be brought in as a member of the team.

It would be unfair to state that the treatment of the spastic child has been neglected or that little or nothing has been done for this handicap. For many years individual and group care has been provided. Surgery has been performed to correct deformities, splints and braces have proved effective, physiotherapy and re-education have been made available in clinics and in special schools. However, these services have not been generally obtainable and usually were offered only to those who gave promise of improvement. It appears certain that many more cerebral palsied children can be benefited if the proper facilities are made available.

Community Organization For Treatment

Successful experience with various therapeutic procedures in the management of the spastic child justified a community program for all children handicapped with this condition. Recognizing the multiplicity of symptoms and the variations in degrees of severity of impairment, it is essential to have a diagnostic and classification clinic to which these children can be sent. This clinic must be staffed by experts in the allied fields in order to have a reliable estimate of the child's condition. The team responsible for this examination should consist of a pediatrician or a general physician familiar with the problems of handicapped children; an orthopedist who can evaluate the extent and nature of the deformities; a neurologist who can throw light on the location of the lesion; and a psychiatrist. The combined opinions will not assure a long range prognosis, for the latent capacity for improvement cannot be predicted until active therapy and educational efforts have been painstakingly undertaken. Some measure of classification can be made and the initial type of treatment can be outlined. Even though a small percentage of children referred to such a clinic will appear to be non-educable, a final decision should be deferred until the response to treatment is carefully observed.

Initial therapy should be undertaken in a hospital equipped for the treatment of these children. Here too a well qualified group of physicians should direct the treatment assisted by physiotherapists and specialized teachers. The recent favorable experience with drug therapy makes this method of treatment advisable in properly selected cases. During the hospitalization period the response to treatment can be closely observed. At the same time a course of instruction can be given the parents who later become most helpful in the assistance of home care.

As soon as possible, children whose treatment has been outlined and successfully initiated should be referred to a special residence school or nursery school where medical supervision continues and all of the physical and educational aids are available. In many instances the children can be returned to their own homes provided parental assistance is available and the special aids in therapy and education can be obtained in a clinic designed for the care of cerebral palsied children.

As the educable children reach school age, at from 5 to 7 years of age, it is desirable to send them to a special class provided in the regular school system. Many cities have developed either special classes or even schools for crippled children. A school for

crippled children usually accepts a variety of crippling conditions, such as infantile paralysis and traumatic lesions as well as cerebral palsy. Regular classes and ungraded groups are registered in such a school. A near normal school program is arranged for the spastic children with a staff of specially trained teachers and physiotherapists. Medical supervision is of paramount importance for these children to assure them the graded treatment indicated. As soon as sufficient progress has been made to permit these children to graduate to a regular class or school the transfer is made, though the necessary observation and treatment is not abandoned. In existing special school classes, it has been possible to prepare about one third of the cerebral palsied children for regular grades before they completed their elementary school course. Those severely handicapped may be carried in the special class until the secondary school is reached. As handicapped children reach the adolescent period, the degree of handicap determines the type of schooling. The regular services of the physical education department can be supplemented by a vocational or rehabilition center or else enrollment in such a center will prepare the individual for gainful occupation. If the physical and mental improvement is inconsistent with further education or general employment, a sheltered workshop should be made available.

Such a program is not an idle dream but can be established in many urban communities where the needed medical and educational facilities are available. It is, of course, difficult and, perhaps, impossible for small communities and rural areas but children from these sections can be brought to cities supplying these services. Efficient organization is imperative. There is probably no single method of organization. An advisory medical committee composed of competent and interested specialists should direct the overall special services from diagnostic clinic to the completion of the school training. An organization of parents of cerebral palsied children is of great help in keeping the various links in the long range care from breaking. Health departments with other public health agencies, as well as social agencies, must assist in the supervision of these children. The family physician though not actually responsible for the special care of these children must be a partner in the team to guide the general health of the child and act as the advisor to the family.

A phase of the community program is the economic one. The maintenance of such services is expensive and for that reason the community should contribute generously. State and federal funds

must be available if satisfactory services are established. Such funds should also be given to worthy families who otherwise would be unable to avail themselves of these advantages.

Drug Therapy

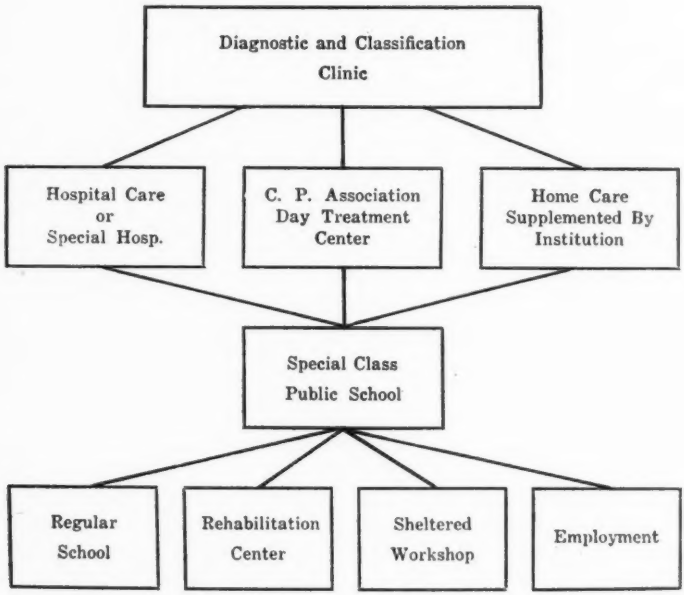
Unfortunately the end results under the most favorable program, in some patients, will fall far short of the desired goal. The nature of the lesion and the extent of the damage limits the degree of improvement with existing therapeutic procedures. As already mentioned the use of certain drugs such as prostigmin, curare and erythroidin promise to materially assist in the control of the spastic child. Already significant results have been reported with all of these drugs and others are being used experimentally. Studies reported by Schaubel[2] indicate that prostigmin administered to cases of infantile cerebral paralysis brought about a distinct lessening of spasticity and an increase in the function of the involved muscles as early as two or three weeks after the beginning of the treatment. Where drugs have been administered, the usual measures, such as physiotherapy and muscle re-education should be used in conjunction with the drug in order to obtain the most beneficial results. The use of drugs though known to be effective in individual cases is still in the experimental stage. Further research in this field is imperative and every encouragement should be given to individuals or groups, qualified to carry out further investigations.

Conclusion

The management of the spastic child is a community responsibility. As early as possible the handicapped infant or child should be thoroughly studied by a competent group of specialists in order to determine the extent of the physical impairment and the mental capacity. All of the children with a diagnosis of cerebral palsy should receive intensive treatment early in life. No final evaluation of the intellectual status of the child should be made until a reasonable period of observations has been assured. Medical and educational services should be continuously available through a cerebral palsy center. A treatment center should supplement hospital care and educational services should be made available in a nursery school and in special classes at a regular school. Following the school training vocational and rehabilitation centers should prepare the palsied individual for gainful occupation or useful service in a sheltered workshop.

2. Schaubel, H. J.—*Prostigmine as Adjunct in Treatment of Spastic Cerebral Palsy.* Physiotherapy Rev. 24: 236-237. Nov.-Dec. 1944.

COMMUNITY CEREBRAL PALSY PROGRAM



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BIBLIOGRAPHY

Communicable Disease,—The Diagnosis of Undulant Fever by Laboratory Tests. New England Journal of Medicine, Oct. 9, 1947, p. 564.

Is Immunization of Student Nurses Against Scarlet Fever Justified? *Todd R. L., M.D.*, Journal Lancet, July, 1947.

Impetigo—Its Contagious—Hygeia, August, 1947.

Heredity,—Sex-linked Factors in Heredity, *Wathay Fasten*, Hygeia, August 1947, p. 591.

Cerebral Palsy,—Cerebral Palsy, *Jacobs, J. E., M.D.*, Physiotherapy Review, May-June, 1947.

Methods of Treatment for the Cerebral Palsied, *St. James, Robertine*, Physiotherapy Review.

The Spastic Child at Home, *T. Arthur Turner*, Hygeia, October 1947, p. 778.

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EDITORIAL

Statistics on the relative standing of the states as regards the percentage of adults over twenty-five years of age who have not completed more than four years of school (grades) show the following ranking:*

IOWA HAS BEST EDUCATED CITIZENS

1	Iowa	4.1	25	Missouri	10.3
2	Oregon	5.2	26	North Dakota	10.8
2	Idaho	5.2	27	Connecticut	11.2
4	Utah	5.5	28	New Jersey	12.0
5	Washington	5.9	29	New York	12.1
6	Nebraska	6.0	30	Pennsylvania	12.3
7	Kansas	6.1	31	Delaware	12.9
7	Vermont	6.1	32	Oklahoma	13.5
9	Wyoming	7.1	33	Rhode Island	13.7
10	South Dakota	7.2	34	Maryland	15.3
11	Montana	7.4	35	West Virginia	16.5
11	Maine	7.4	36	Florida	18.5
13	Minnesota	7.5	37	Texas	18.8
14	Indiana	7.7	38	Arizona	19.4
15	California	8.1	39	Kentucky	20.2
15	New Hampshire	8.1	40	Tennessee	21.7
17	District of Columbia	8.2	41	Arkansas	23.1
18	Ohio	8.4	42	Virginia	23.2
19	Nevada	8.8	43	North Carolina	26.2
20	Colorado	9.0	44	New Mexico	27.3
21	Wisconsin	9.4	45	Alabama	28.9
22	Illinois	9.6	46	Georgia	30.1
23	Massachusetts	10.1	47	Mississippi	30.2
24	Michigan	10.2	48	South Carolina	34.7

—*North Carolina Public School Bulletin*

To what should we attribute these relative standings?

*From the *North Carolina Public School Bulletin.*

One's first reaction is to say, "failure to spend enough money on the schools". This is an "easy out" and a favorite piece of propaganda, but is only a part of the answer. For instance, why does Iowa, spending only $1,526 per year per classroom—standing thirteenth in the amount spent per classroom—show the best record as regards illiteracy, while New York, spending $4,150 per class room per year, is down in twenty-ninth place in illiteracy.

COMPARISON OF EXPENDITURES PER CLASSROOM**

New York	$4,150	Vermont	$1,378
California	3,592	Missouri	1,255
New Jersey	3,281	Maine	1,222
Massachusetts	2,454	S. Dakota	1,107
Illinois	2,271	N. Dakota	970
Washington	2,245	Virginia	862
Michigan	2,100	Georgia	819
Pennsylvania	2,056	Tensessee	800
Ohio	2,042	Alabama	748
Oregon	1,895	Kentucky	732
Indiana	1,772	Arkansas	509
Colorado	1,769	Mississippi	448
Iowa	1,526		

—*New York Teacher News*

New York, the state that spends the most, is excelled by twenty-eight states. If the answer is that New York pays higher salaries to its teachers, may we ask "Why do these higher salaries produce so much poorer results than do the lower salaries of Iowa."

Is immigration into New York the answer? For twenty-five years there has been very little immigration from foreign countries.

Perhaps Iowa has a population that wants to be educated.

Perhaps the small town and rural school is not as inefficient as we have been told.

Perhaps the efforts in New York are spread too thin; perhaps too wide a range of subjects is covered.

Nor can the low rating of New York be due wholly to the presence of large cities—unless it be New York City alone which so lowers the rating of the state. California too has some large cities but spends less per class room than does New York and still ranks fifteenth as contrasted to the New York rank of twenty-ninth.

Perhaps the good standing may be attributed to the fact that Iowa and the other high ranking states have a more homogenous population. By inference, that is to say that our recently foreign groups lack intelligence. Anyone who has taught such groups knows this is not so.

Whatever the answer to this puzzle, it certainly is distinctly evident that the amount spent per classroom—and by and large that means the relative rates of pay of the teachers and administrators—is not the decisive factor.—*C. H. K.*

**From the *New York Teacher News*.

ABSTRACTS AND NOTES

Foot Baths in Locker Rooms,—To the Editor: What is the present consensus with regard to the value of foot baths in locker rooms, swimming pools and gymnasiums for preventing the spread of ringworm? A few years ago sodium hypochlorite solution was recommended; is this still considered of value? Also there are commercial solutions on the market. Is there much chance of skin iritation from any of these foot bath solutions?—*M.D., Illinois.*

Answer.—There is much less use of antiseptic foot baths in locker rooms, swimming pools, and similar places in attempting to prevent ringworm of the feet now than formerly. Sodium thiosulfate 10 per cent is much less used. Sodium hypochlorite 1 per cent seems to have more adherents, but the solution should be changed probably every forty-eight hours. Little skin irritation has been seen from any of these foot bath solutions. A study of dermatophytosis in industry by the U. S. Public Health Service showed that there was no value to foot baths and copper impregnated flooring in preventing the spread of tinea pedis. The National Research Council in 1944 recommended that foot baths for the prevention of tinea pedis should not be used by our armed forces.

In a paper read before a Congress on Industrial Health, Schwartz recommended the use of individual wooden-sole bathing slippers to be worn in and out of shower baths and the thorough drying of the feet, especially the interdigital spaces, as the logical method of preventing the spread of tinea pedis in locker rooms and shower baths. If commercial solutions on the market for use in foot baths are of sufficient concentration to kill fungi on the feet in the short time that the feet are immersed or sprayed by them, they are likely sources of skin irritation. Journ. A.M.A., Aug. 23, 1947, p. 1515.

* * * * *

Pros and Cons of Air Sanitation,—The potentialities of air sanitation in the control of a wide variety of respiratory and infectious diseases appear to be great but concrete results have not yet materialized, according to Dr. Alexander Langmuir, associate professor of epidemiology, Johns Hopkins University. This situation he attributes to epidemiological limitations rather than to engineering techniques.

Speaking at the Annual Conference of Health Officers and Public Health Nurses at Saratoga Springs, July 29, Doctor Langmuir underscored the great revival of interest in the concept of airborne infection and the numerous mechanical devices which have been developed for air disinfection. He expressed the conviction that these engineering techniques can be used effectively only with

accurate knowledge of the mode of transmission of the diseases which they are directed.

As commonly used, Doctor Langmuir continued, the term "airborne infection" applies to a large group of respiratory and contagious diseases and also to skin and wound infections. Yet for many years these same diseases have been considered almost universally to be contact infections. In general, there are four routes by which they travel from one individual to another: contact, droplet, droplet nuclei, and dust.

The term "airborne infection" should be restricted, Doctor Langmuir explained, to the transmission of disease through the air with distances of more than three feet between the infective source and the recipient. Two distinct mechanisms are involved in such infection—droplet nuclei and dust—against which four types of techniques are considered most useful:

Mechanical ventilation by the introduction of clean filtered air in controlled currents achieves a limited removal of droplet nuclei and dust. This method is uneconomical and inefficient in most occupied spaces as a means of disinfecting air but has wide application in the general field of air conditioning, and particularly in specialized fields such as surgical operating rooms.

Ultraviolet irradiation is effective primarily against droplet nuclei. The maximum that can be expected from ultraviolet lights is that they will reduce or prevent only those infections acquired by droplet nuclei which travel the circuitous route from the infected person into the upper air and then down again before being inhaled by the recipient.

Disinfectant vapors, of which triethylene glycol appears to be the most potent, also are limited in their action to the small droplet nuclei. They have one distinct advantage over ultraviolet light in that they may permeate all parts of the room. They have little or no effect on dustborne infections.

Oiling of doors, and bedding and other fabrics is a highly efficient method of dust suppression in hospital wards, dormitories, and military barracks. It effects marked visible reduction of dust in the air and a striking quantitative reduction in the number of bacteria recoverable from the air during periods of activity.

The epidemiological concepts regarding this problem, Doctor Langmuir said, point to the importance of airborne infection in those particular and somewhat unusual environments where it is possible to exclude with reasonable certainty the occurrence of con-

tact infection. "They do not answer, however, the much larger question of the importance of airborne infection in the general community. In most instances, where epidemic diseases are spreading in natural populations, it is not possible to distinguish between contact and airborne infections because both could occur and there is no way to balance their relative importance. Only since the techniques of controlling droplet nuclei and dust have been developed has it been possible for us to begin to get any information on this problem. The results of the new field trials with ultraviolet light, with glycol vapors, and with dust suppression that have been conducted to date give us some indications."

In summary, Doctor Langmuir said that effective engineering techniques for the disinfection of air are available. These are useful in preventing the spread of disease in a few limited environments where airborne infection is an important mode of transmission, i.e., surgical operating rooms, pediatric and contagious wards, and research laboratories where agents of human disease are under investigation.

Controlled studies in other environments such as schools and institutions, military and naval barracks, and sanatoria and mental hospitals, offer the best prospects for the logical extension of air sanitation.

Finally, Doctor Langmuir expressed the belief that an equal amount of effort should be placed on a new approach and better methods for the control of contact infections rather than to rely on air sanitation as the solution to our problems. Health News, New York State Dept. Health, Oct. 20, 1947.

* * * * *

The Increased Toll of Cripples from Poliomyelitis,—Poliomyelitis has attacked an unusually large number of persons in the United States in recent years. In fact, the four years from 1943 through 1946 constitute the longest period of sustained high incidence of the disease in the history of the country. In 1946 alone, there were more than 25,000 cases, a figure which was exceeded only once before—in 1916, when more than 27,000 cases were reported. As might be expected, the recent increase in cases has brought with it a steady rise in the number of children and young people with crippling impairments resulting from the disease.

While poliomyelitis attacks persons of any age, children are its chief victims. Only one fifth of the total cases reported are at ages 15 and over, and less than one tenth are at the ages past 21. Poliomyelitis is the greatest single cause of crippling in childhood, and is responsible for almost one fifth of all orthopedic handicaps at ages under 21.

It is estimated that the number of children and young people in the United States crippled by poliomyelitis has increased about 10 per cent in the past two years and almost 45 per cent in the past seven years. As of January 1st of the current year, it is further estimated that there were nearly 74,000 persons under age 21 who were crippled to some degree by the disease; at the beginning of 1940 the number was in the neighborhood of 51,000. Only a small part of this rise has come about through the increase in the child population, inasmuch as a comparison of the rates of crippled survivors shows a rise from 10.6 per 10,000 at ages under 21 in 1940 to 14.4 in 1947, an increase of 36 per cent.

The relative increase in those crippled by the disease varies greatly from State to State. The largest rise was recorded by Utah, where the crippled survivors increased 230 per cent—from 8.2 per 10,000 population at ages under 21 in 1940 to 27.1 in 1947. Other States in which the rate at least doubled in this period were Arkansas, Colorado, Ohio, Tennessee, and Indiana. At least three States —New Mexico, Maine, and Massachusetts—experienced decreases of from 7 to 14 per cent.

There are also large differences in the proportion of children and young people crippled by poliomyelitis in the present populations of the various States.* Minnesota is at the top of the list with a rate of 31 per 10,000, more than twice the rate for the country as a whole. Other States with rates of more than 20 per 10,000 are Utah, Kansas, Rhode Island, Colorado, Vermont, and New York. At the other end of the scale are Virginia, Connecticut, Georgia, and Delaware, with rates of less than 9 per 10,000. In general, the rates for the southern States are appreciably below the national average.

Another point of interest to those concerned with the problem of poliomyelitis, is the number of crippled victims according to age. The facts are presented in the table. The number of crippled survivors increases progressively with each five-year age period. Thus, at ages under 5 there were at the beginning of the year almost 6,400 crippled survivors from an attack of poliomyelitis; at ages 15 to 19 the number was 23,330.

The record for poliomyelitis this year contrasts with the unfavorable experience of the years immediately preceding. At the time of this writing it is evident that the record flareup of the disease which started in 1943 has been broken. Thus far there have been only a relatively few localized epidemics this year, and it appears quite likely that the number of cases for the year will be not far from 10,000, well below the figure for any of the four preceding years.

*Table of state rating omitted.

CRIPPLED SURVIVORS FROM AN ATTACK OF POLIOMYELITIS, AGES UNDER 21 YEARS, JANUARY 1, 1947, UNITED STATES

Age	Number (Estimated)	Rate per 10,000 Estimated Population
Ages 0 to 20	73,844	14.4
Under 5	6,384	4.3
5 to 9	18,060	15.2
10 to 14	21,350	20.1
15 to 19	23,330	20.5
20	4,720	20.1

Only a fraction of those attacked by poliomyelitis suffer permanent crippling; even many of those who are afflicted with paralysis in the course of the disease recover fully in a relatively short time. Nevertheless, as the figures presented indicate, there are in this country a considerable number of victims who are left more or less crippled. Unfortunately, there are as yet no effective preventive measures available against the disease. Thanks to the program of the National Foundation for Infantile Paralysis, there is much research conducted in the field, and in view of the brilliant achievements of medical science in the past, there is every reason to believe that poliomyelitis will in time be brought under control. Meanwhile, much can be done to lessen the damage that the disease inflicts. Prompt and effective treatment during the acute and the early convalescent stages of the disease is of great value in minimizing the occurrence and the extent of residual deformities. With the marked advances already made in the treatment of orthopedic defects, the hopeless cripple of the last generation should be rarely seen in the years to come. Statistical Bulletin, Metropolitan Life Insurance Co., Sept., 1947, p. 5.

REVIEW

School Health and Health Education, *C. E. Turner, A.M., Ed.M., D.Sc., Dr. P.H.,* with the Editorial Assistance of *C. Morley Sellery, M.D.*: The C. V. Mosby Company, St. Louis, 1947, pp. 457, Price $3.50.

This excellent text was prepared "with special consideration of the teacher's part in the school health program." Both the author and the editorial assistant have extended experience in the fields of Health Education and School Health.

The content, starting with a summarization of the field as of today, and the development of the School Health Program, considers the training and duties of the professional workers in school health work. It discusses the well child and its departures from health; gives reasons for health education in the schools, its underlying principles and the values, objectives and planning of the health education program.

On the health protection and services phases, the text presents material on a healthful school environment, the various phases of school health services, such as the health examination and communicable disease control.

It presents material on physical education, safety education, the health of the school staff, health teaching at the various grade levels, including source material, and a discussion of school and community relations in health education, and concludes with a chapter on evaluations of the school health program.

The written material is strongly supported by graphs, tables, and other references to professional authority. The chapters on teaching health are made excellent by references to sources, to materials, and procedures.

This text is a writing that needed to be done. Most of the texts in the school health and education field have been presented largely from the point of view of the specialist or specialists—usually representing the same field of the program. Here we have presentations from broad experiences and close correlations of information that have produced an excellent text—one that is a "must" for the libraries of those working in this broad field and for the libraries of universities training teachers, workers, and administrators in the school health areas of education.—*Charles H. Keene.*

* * * * *

MEETINGS

The 1948 Annual Meeting of the **American School Health Association** with the American Public Health Association will be held in Boston, Massachusetts.

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